

Permaset®



OPAQUE & TRANSPARENT SCREEN PRINTING INKS FOR TEXTILES

With over 60 years of manufacturing experience, **PERMASET®** inks are recognised both by the professional Trade Screen Printer and the Fine Artist as a producer of premium water-based screen printing inks for textiles. Our leadership continued with the reengineering of our successful line of textile inks. In keeping with this heritage of industry leading products, we developed one of the first totally water-based textile printing products with superior performance that eliminates the trade-off between softness and durability.

The development of **PERMASET®** transparent and opaque water-based inks represented a revolution in textile screen printing inks. By using advanced polymer technology combined with the purest pigments in a 100% solvent free base, the unique formula of **PERMASET®** inks offers an environmentally friendly, easy-to-use ink system that provides excellent colour brightness with an unsurpassed balance of softness and durability to wash, rub and dry-clean, eliminating the need for additives.

The **PERMASET®** ink range is a ready for use (RFU), 100% solvent free water-based textile ink, designed for direct wet-on-wet printing on a wide range of natural and synthetic fabrics. The environmentally friendly formula provides intense pigment colour that is rich in coverage and produces exceptional colour yield. The resilient base holds fast. After heat curing, prints exhibit excellent wash, rub and dry-clean resistance whilst having virtually no handle on the printed fabric.

As a water-based product, **PERMASET®** inks are low odour and equipment is easily cleaned with water. **PERMASET®** inks perform at a higher standard. Enhanced screen stability allowing exceptional screen open time, results in cleaner printing over extended print runs. Ideal for use on cotton, linen, hemp, silk, polyester, polyester-blends and most synthetic fibres.

PERMASET AQUA® Standard Colours are transparent and are suitable for printing over light-toned fabrics. **PERMASET SUPERCOVER®** inks are opaque and are suitable for printing over dark-toned fabrics. **PERMASET SUPERCOVER®** First Down White is designed as an opaque under-base to be over printed and can be used with either **PERMASET AQUA®** transparent inks or **PERMASET SUPERCOVER®** opaque inks, depending on the application. The First Down White under-base also improves adhesion and rub-resistance of the top layer.

A leading innovation, **PERMASET AQUA®** and **PERMASET SUPERCOVER®** ink ranges are the perfect textile printing inks for a broad range of textile applications.

Important: Stir well before use.

Compatibility with all fabrics should be checked before commencing a production run.



MAIN CHARACTERISTICS

Mesh Range	<p>Monofilament. Polyester 43-120T (110-305 tpi) depending on application for PERMASET AQUA® Standard, Glow and Process Colours. 43-90T (110-225 tpi) depending on application for PERMASET AQUA® Metallic, Puff, Phosphorescent Green and PERMASET SUPERCOVER® Colours. Nylon mesh is NOT recommended. It is water sensitive and screen tensions can be affected with water based inks. Polyester mesh is recommended.</p>
Stencil Type	<p>Emulsions must be water resistant, fully dried and cured. Dual cure direct emulsions such as KIWO POLYCOL® MULTI-TEX/VERSA-TEX™ or Fujifilm Dirasol® 916 or ULANO® 925WR or Chromaline® CP-TEX™ or MacDermid Autotype PLUS 6000 or Murakami TXR®/T9 are recommended for long print runs and maximum print resolution. Care should be taken to ensure that stencils are properly dried and exposed, as under-exposure will render most direct emulsions sensitive to premature breakdown with water-based inks.</p>
Coverage	<p>15-21m²/L with 62T mesh. 611-856 square feet per US gallon with 155 tpi mesh.</p>
Fabrics	<p>Cotton, linen, hemp, silk, cotton/polyester blends, polyester and most synthetic fabrics. The fastness to wash and dry cleaning on wool may be diminished.</p>
Squeegee	<p>Sharp square urethane squeegees from 60 to 75 Shore hardness are recommended for best image reproduction.</p>
Printing	<p>Ensure that there is adequate ink on the screen for an even print. Between prints, ensure that ink is flooded over the entire image area to prevent drying-in. Ensure that screen emulsions and blockout are water-resistant and fully cured.</p> <p>IMPORTANT: When printing with PERMASET® inks, it is essential to flood the image area after lifting the screen following each print stroke. Thin deposits of ink retained in the mesh will be prone to drying in if left unflooded. By flooding straight away, fresh ink wets out these deposits and prevents premature drying in.</p>



Open Time	If drying in the screen too quickly, add 1-2% PERMASET® Print Retarder to PERMASET AQUA® inks and 2-5% to PERMASET SUPERCOVER® inks.
Drying	<p>For optimum wash and colour fastness, prints should be fully heat cured. Whilst the below information is a guide, the curing schedule used should be chosen to suit the heat resistance of the fabric being printed.</p> <p>Care must be taken with IR dryers to ensure that prints are fully cured. When printing on synthetic blends and fabrics, a lower curing temperature and longer drying time is recommended. If your drying conditions fall outside these recommendations, please contact your local representative for technical assistance.</p> <p>The following curing guidelines are recommendations for ink deposit temperatures, not dryer temperatures. This should be checked with temperature strips or IR gun to ensure that appropriate temperatures are achieved.</p> <p style="text-align: center;">2-3 minutes @ 160°C (320°F) 5-6 minutes @ 140°C (285°F) 8-9 minutes @ 120°C (250°F)</p> <p>If using PERMASET® Print Retarder in the ink, note that this will also slow drying in the oven. Ensure that a test wash is completed to confirm that cure regime is adequate.</p>
Fastness	<p>Light Fastness is very good-excellent. Most colours achieve a rating of 8/8 on the Blue Wool Scale (BWS), but all Colours except Glow Colours rate not less than 6/8. Figures for the Glow range are substantially lower, but not quantified at this time.</p> <p>Colour Matches: Note that high temperatures combined with strong detergents can cause colour changes in some colour matches. It is therefore imperative that all formulations are checked for acceptable wash fastness properties prior to production.</p>
Thinning & Wash-up	If necessary, thin with up to 2-5% water. Wash screens out whilst still wet with water and detergent. Dried in ink may be washed out with conventional or eco-friendly screenwash.
Applications	T-Shirts, flags, banners, sports and fashion wear. Scarves and swimwear. Upholstery and window furnishings.



<p>Properties</p>	<p>PERMASET AQUA® transparent screen printing inks for light-toned fabrics: matt finish, solvent-free, low odour, intermixable, light fast*, non bleeding† colours. Brilliant transparent shades in PERMASET AQUA® Standard, Glow and Process Colours. PERMASET AQUA® Metallic Colours exhibit excellent opacity. Soft handle. Excellent wash and dry clean resistance once cured. Ironable.</p> <p>PERMASET SUPERCOVER® opaque screen printing inks for dark-toned fabrics: Matt finish. Solvent-free. Low odour. Intermixable, light fast*, non-bleeding† colours. PERMASET SUPERCOVER® Colours and Glow Colours exhibit excellent opacity. Soft handle. Excellent wash and dry clean once cured. Ironable.</p> <p>* All Glow colours exhibit diminished light fastness, particularly in direct sunlight. † Some Glow colours may bleed when over printed. Test before use.</p>
<p>Product Resistance</p>	<p>After heat curing, prints exhibit excellent resistance to wet and dry rub.</p>
<p>Colour Range</p>	<p>PERMASET AQUA® Standard Colours</p> <ul style="list-style-type: none"> Jet Black Standard White (opaque) Mid Yellow Yellow R Orange R Scarlet Bright Red Mid Red Rose Purple Junior Navy Blue B Light Blue Mid Green Green B Print Paste <p><i>Available in 100 mL, 300 mL, 1 L & 4 L</i></p> <ul style="list-style-type: none"> Turquoise Dark Brown Brown R Venetian Red <p><i>Available in 300 mL, 1 L & 4 L</i></p> <p>PERMASET AQUA® Glow Standard Colours*†</p> <ul style="list-style-type: none"> Glow Yellow Glow Orange Glow Red Glow Pink Glow Magenta Glow Violet



Glow Blue
Glow Green

Available in 300 mL, 1 L & 4 L

* All Glow colours exhibit diminished light fastness, particularly in direct sunlight.

† Some Glow colours may bleed when over printed. Test before use.

PERMASET AQUA® Special Effects

Puff Paste *Available in 300 mL*

Phosphorescent Green *Available in 100 mL, 300 mL & 1L*

Foil Effects Blue

Foil Effects Gold

Foil Effects Copper

Foil Effects Silver

Available in 100 mL, 300 mL & 1L

PERMASET SUPERCOVER® Colours

SUPERCOVER Black

SUPERCOVER White

SUPERCOVER Mid Yellow

SUPERCOVER Yellow R

SUPERCOVER Orange R

SUPERCOVER Scarlet

SUPERCOVER Bright Red

SUPERCOVER Mid Red

SUPERCOVER Rose

SUPERCOVER Purple

SUPERCOVER Ultra Blue

SUPERCOVER Blue B

SUPERCOVER Light Blue

SUPERCOVER Mid Green

SUPERCOVER Green B

Available in 300 mL, 1 L & 4 L

SUPERCOVER First Down White

SUPERCOVER Print Paste

Available in 1 L & 4 L

PERMASET SUPERCOVER® Glow Colours*†

SUPERCOVER Glow Yellow

SUPERCOVER Glow Orange

SUPERCOVER Glow Red

SUPERCOVER Glow Pink

SUPERCOVER Glow Magenta

SUPERCOVER Glow Violet

SUPERCOVER Glow Blue

SUPERCOVER Glow Green

Available in 300 mL, 1 L & 4 L

* All Glow colours exhibit diminished light fastness, particularly in direct sunlight.

† Some Glow colours may bleed when over printed. Test before use.

PERMASET AQUA® Process Colours

Process Black

Process Cyan

Process Magenta



Process Yellow
Available in 1 L & 4 L

PERMASET AQUA® Metallic Colours
Metallic Pearl White
Metallic Silver
Metallic Gold
Metallic Copper
Available in 100 mL, 300 mL, 1 L & 4 L

Ancillary Products

Fabrics must be held in place during printing by means of a pressure sensitive adhesive to ensure good definition and registration.

PERMASET® Table Adhesive is suitable for this purpose.
Available in 500 mL, 1 L, 5 L

Water based inks can be prone to drying in on the screen. To provide longer open time, **PERMASET® Print Retarder** can be added in very small amounts to slow the drying in process.
Available in 500 mL, 1 L, 5 L & 15 L

PERMASET® Synthetic Fixer is an additive for use with **PERMASET AQUA®** and **PERMASET SUPERCOVER®** ink ranges. It provides enhanced adhesion to textile substrates which, under normal conditions, could be problematic. **PERMASET® Synthetic Fixer** is most widely used for textile print applications over synthetic materials such as polyester/cotton blends or textiles rich in polyester or acrylic fibre.
Available in 500 mL, 1 L & 5 L

PERMASET® Fabric Softener is a formulated product based on silicone technology designed for use in textile printing. Addition of **PERMASET® Fabric Softener** imparts a softer, drier hand feel to textile prints made with products from the **PERMASET AQUA®** and **PERMASET SUPERCOVER®** ink ranges. It also improves both wet and dry rub fastness. Fabric Softener is beneficial when printing on delicate fabrics where a soft handle in the print is a specific requirement. Addition of **PERMASET® Fabric Softener** can also help counteract the stiffening effect that may occur when using **PERMASET® Synthetic Fixer** or other additives.
Available in 500 mL, 1 L & 5 L



Environmental Information	<p>The PERMASET® range is formulated to be environmentally friendly with enhanced performance characteristics. PERMASET AQUA® and PERMASET SUPERCOVER® inks do not contain ozone depleting chemicals such as CFCs and HCFCs. They are also formulated free of aromatic hydrocarbons. The PERMASET® range is free of volatile organic solvent (VOC) and does not contain any PVC resin nor phthalate plasticisers. The PERMASET® range are also free from Lead and other heavy metals.</p>
Storage	<p>Containers should be kept in a cool dark place out of direct sunlight and away from sources of heat. Containers should be tightly closed when not in use. Keep out of reach of children.</p>
Suggested Safe Disposal Method	<ol style="list-style-type: none"> 1. Wipe as much excess ink off the screen as possible, first with a squeegee (into a clean bucket for re-use), then with rags/paper (into bin) 2. Hose out the screens in a contained vessel 3. Capture the liquid waste and allow to settle 4. Strain out solids, dry solids in the sun and dispose of as solid waste. 5. Aqueous waste water should be disposed of in sealed containers via a certified waste disposal entity. <p>Excess ink and wastes from the screen should be disposed of in accordance with the regulations of local regulatory authorities.</p>

NOTE: The information and recommendations contained in this Technical Data Sheet, as well as technical advice otherwise given by representatives of our business, whether verbally or in writing, are based on our present knowledge and believed to be accurate. However, no guarantee regarding their accuracy is given as we cannot cover or anticipate every possible application of our products and because manufacturing methods, printing stocks and other materials vary. For the same reason, our products are sold without warranty and on condition that users conduct their own tests to satisfy themselves that they will fully meet their particular requirements. Our policy of continuous product improvement might make some of the information contained in this Technical Data Sheet out of date and users are requested to ensure that they follow current recommendations.

PERMASET, PERMASET AQUA and PERMASET SUPERCOVER are registered trade marks.